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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,340	03/17/2004	B. Raghava Reddy	HES 2003-IP-011492U1	5199
28857	7590	05/05/2006	EXAMINER	
CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440			SUCHFIELD, GEORGE A	
			ART UNIT	PAPER NUMBER
			3676	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,340

Applicant(s)

REDDY ET AL.

Examiner

George Suchfield

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 15, 17-20 and 35-45 is/are rejected.
- 7) ☒ Claim(s) 9, 11-14, 16, 21-34 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/16/04; 10/11/05; 10/24/05; 12/7/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-8, 10, 17-20 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen et al (6,390,195).

Nguyen et al discloses a method of controlling the production of particulates from a well by emplacement of a cement sheath within the well bore penetrating a subterranean formation. The permeable cementing slurry may be positioned in the annulus between a perforated pipe and the open wellbore. Nguyen et al further provides the cement with a particulate cross-linked gel containing an internal breaker which causes the gel to break “whereby vugs and channels are formed in the set cement column” (col. 2, lines 42-51; col. 3, lines 33). For example, one of the breakers may comprise the enzyme hemicellulase. Hence, it is deemed that the particulate cross-linked gel inherently comprises “a degradable material”, as called for in claim 1 and 6, by virtue of the enzyme attack or cleavage of the hydratable polymer component, such as hydroxyalkylcellulose, of the particulate cross-linked gel.

As per claim 2, the cementing slurry employed by Nguyen et al is aqueous-based, with the recited amount of water set forth in claims 3 and 4 appear to correspond to that employed in Nguyen et al..

As per claim 5, the cementing slurry of Nguyen et al may comprise a Portland cement.

As per claim 7, it is deemed that both the particulate cross-linked gel or the acid-soluble particulate solid degradable materials utilized in the cementing process of Nguyen et al will inherently or necessarily function as a fluid loss agent, e.g., insofar as both are in a particulate or solid form upon emplacement.

As per claim 8, the degradable material, e.g., the particulate cross-linked gel clearly degrades after the setting of the cement.

As per claim 10, it is deemed that the action of the injected acid upon the degradable material comprising the acid soluble particulate solid (noted col. 3, lines 49-63) will yield a salt via the acid reaction.

As per claim 16, the process of Nguyen et al (col. 3, lines 64 - col. 4, line 6) may further comprise a hydrocarbon-solvent soluble degradable material which may comprise a bead, such as polystyrene beads.

As per claim 17, since the set cement resulting from the process of Nguyen et al will similarly include voids, it is deemed voids will similarly enhance the mechanical properties of the set cement in the same manner as applicant's invention, such as the "elasticity, resiliency and/or ductility" of the set cement sheath, as called for in claim 18.

As per claims 19 and 20, the recited range(s) of degradable material in the permeable cement composition appears encompassed by the corresponding particulate cross-linked gel concentration range in Nguyen et al (col. 3, lines 34-39) of 10 - 30 % by weight.

As per claim 35, the cementing composition emplaced in the process of Nguyen et al (note col. 5, lines 5-10) may further comprise a gas, which may further comprise nitrogen, as called for in claim 36, and in a concentration range of "10% to about 50% by volume", which encompasses the corresponding range of claim 37.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (6,390,195) as applied to claim 1 above, and further in view of Metcalf et al (4,210,455).

Metcalf et al (note col. 1, lines 36-59) discloses the use of a fluid loss agent in well cementing slurries. Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly employ a fluid loss agent in the permeable well cementing slurry used in the well cementing method of Nguyen et al, as taught by Metcalf et al, in order to minimize or prevent loss of water from the cementing slurry during the circulation and setting of the permeable cement in Nguyen et al, as called for in claim 15.

4. Claims 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (6,390,195) as applied to claim 1 above, and further in view of Reddy et al (2003/0221832).

Reddy et al (note Para [0010]) teaches the use of a specific gas-generating additive in a well treatment fluid.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly include a gas-generating additive in the well cementing composition utilized in the well cementing process of Nguyen et al, as taught by Reddy, in order to supplement the available gas in the embodiment wherein a foamed cementing slurry is employed and/or to reduce the hydrostatic pressure of the cementing slurry, as called for in claim 38.

The process of Nguyen et al, as modified by Reddy et al, further includes the specific gas generating additives, such as aluminum powder or azodicarbonamide and the specific gas generated, as recited in claims 39-43, and with the specific amounts or ranges of each deemed an obvious matter of choice or design based on the characteristics of the specific subterranean formation encountered in the field or result of routine experimentation for process optimization.

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5. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (6,390,195) as applied to claim 1 above, and further in view of Brothers (6,904,971).

Brothers et al (col. 2, lines 19-29) discloses a method wherein a formation comprises a multilateral well.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to have modified the process of Nguyen et al by having a subterranean formation that further comprises a multilateral well, as taught by Brothers et al, in order to effect a more proficient production of a subterranean formation.

6. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (6,390,195) as applied to claim 1 above, and further in view of Simpson et al (6,578,630).

Simpson et al (col. 4, lines 40-64) discloses a method wherein a subterranean formation comprises a wellbore that comprises an expandable tubular.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to have modified the process of Nguyen et al by having a subterranean formation that further comprises an expandable tubular, as taught by Simpson et al, in order to provide for more options for the production of oil and gas from a subterranean formation.


7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

8. Claims 9, 11-14, 16, 21-34 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Suchfield whose telephone number is 571-272-7036. The examiner can normally be reached on M-F (6:30 - 3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


George Suchfield
Primary Examiner
Art Unit 3676

Gs
May 2, 2006